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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 26 OCT 2006

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Applicant's or agent's file reference 123029-2009	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/US04/11489	International filing date (day/month/year) 14 April 2004 (14.04.2004)	Priority date (day/month/year) 14 April 2003 (14.04.2003)	
International Patent Classification (IPC) or national classification and IPC IPC: C07H 1/00(2006.01);C12Q 1/68(2006.01) USPC: 536/23.1,24.3,24.33,124,127			
Applicant UNIVERSITY OF HOUSTON			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of ___ sheets, as follows:</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand 15 November 2004 (15.11.2004)		Date of completion of this report 03 October 2006 (03.10.2006)	
Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450		Authorized officer <i>Devesh Khara</i> Telephone No. 571-272-1600	
Facsimile No. (571) 273-3201			
Form PCT/IPEA/409 (cover sheet)(April 2005)			

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/US04/11489

Box No. I Basis of the report

1. With regard to the language, this report is based on:

- ☒ the international application in the language in which it was filed.
- ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4(a))
 - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ the international application as originally filed/furnished
- ☒ the description:
- pages 1-46 _____ as originally filed/furnished
- pages* NONE _____ received by this Authority on _____
- pages* NONE _____ received by this Authority on _____
- ☒ the claims:
- pages 47-69 _____ as originally filed/furnished
- pages* NONE _____ as amended (together with any statement) under Article 19
- pages* NONE _____ received by this Authority on _____
- pages* NONE _____ received by this Authority on _____
- ☒ the drawings:
- pages 1-17 _____ as originally filed/furnished
- pages* NONE _____ received by this Authority on _____
- pages* NONE _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

** If item 4 applies, some or all of those sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US04/11489**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims <u>1-69</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-69</u>	NO
Industrial Applicability (IA)	Claims <u>1-69</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and Explanations (Rule 70.7)

Claims 1-69 lack an inventive step under PCT Article 33(3) as being obvious over Gao et al; McLean et al and Sundberg et al.

Gao et al. disclose RNA and DNA oligonucleotide synthesis and their assay (col.1, lines 10-20). The oligonucleotide synthesis is disclosed (col.32, Example IV). Furthermore, the nucleotide phosphoramidite are disclosed (Fig.1).

McLean disclose a method for the synthesis of a plurality of oligonucleotides (abstract). The oligonucleotide may be formed from precursors of individual nucleotides by conventional technology used for synthesizing oligonucleotides, for example by using phosphoramidite chemistry on an automated oligonucleotide synthesizer (cols.1-2).

Sundberg et al. disclose a variety of derivatized supports and methods for their preparation, which are useful in the preparation of peptides, oligonucleotides or other small organic molecules (col.2, lines 10-50 and figures).

Claims 1-69 have industrial applicability as defined by PCT Article 33(4).